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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/978,019	10/17/2001	Richard F. Bellas	2105.2335	3829

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EXAMINER

BUSHEY, CHARLES S

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 06/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/978,019

Applicant(s)

BELLAS ET AL.

Examiner

Scott Bushey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) 3,29-43 and 54-58 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-28 and 44-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1 shf.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Species B, as depicted by Figures 7-14 in Paper No. 6 is acknowledged. The traversal is on the grounds that the species are closely related and would not require separate fields of search. This is not found persuasive because field of search is irrelevant to the propriety of a requirement for election of species. Applicant appears to be confusing the conditions required for the holding of a proper restriction requirement between patentably distinct inventions, i.e., an apparatus and process of operating an apparatus, and those conditions required for holding of a proper election requirement between patentably distinct species of an invention. As set forth in the species election requirement of the previous Office action, **should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case.** In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

The requirement is still deemed proper and is therefore made FINAL.

With respect to applicant's position that claims 1-28, and 44-53 read on the elected species, the Examiner largely agrees. However, claim 3 recites dimensional characteristics disclosed only in connection with non-elected Species A. Therefore, claim 3, as well as, claims 29-43, and 54-58 are withdrawn from further consideration at this time.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the openings being in the form of "slots", as recited by instant claims 4 and 19, and the openings being in the form of "slots and holes", as recited by instant claims 5 and 20 must be shown or the features canceled from the claims. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 7, 8, 10-13, and 44-48 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Evert (Figs. 1-3; col. 1, line 65 through col. 2, line 4; col. 2, lines 15-40; col. 2, line 55 through col. 3, line 5; col. 3, lines 35-37).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evert.

Evert (Figs. 1-3; col. 1, line 65 through col. 2, line 4; col. 2, lines 15-40; col. 2, line 55 through col. 3, line 5; col. 3, lines 35-37) as has been applied above substantially discloses applicant's invention as recited by instant claims 4-6, except for the openings being in the form of slots or a combination of slots and holes, and the water inlet pressure being between 100 and 140 psi. Wherein the simple change in form or shape of a known element of the prior art, when such change is not shown to provide an unexpected result, has long been considered an obvious modification, it would have been obvious for an artisan at the time of the invention, to provide the water inlet spray openings, as taught by Evert, in any convenient shape, including slots or a combination of slots and holes. Note *In re Dailey et al*, 149 USPQ 47. Furthermore, it would have been obvious for an artisan at the time of the invention, to operate the reference apparatus at any convenient water inlet pressure, including that as recited by instant claim 6, since as stated by the Court, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. Note *In re Aller et al*, 105 USPQ 233.

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8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Evert as applied to claims 1, 2, 4-8, 10-13, and 44-48 above, and further in view of any one of Wittemann, Fletcher, Gray, or Damann.

Evert (Figs. 1-3; col. 1, line 65 through col. 2, line 4; col. 2, lines 15-40; col. 2, line 55 through col. 3, line 5; col. 3, lines 35-37) as has been applied above substantially discloses applicant's invention as recited by instant claim 9, except for the openings being arranged in a plurality of horizontal rows.

Wittemann (Fig. 1), Fletcher (The Figure; page 2, lines 22-37), Gray (The Figure; page 1, lines 63-80), and Damann (Figs. 1 and 2; col. 2, line 54) each alternatively disclose gas/liquid contact apparatus wherein a liquid inlet diffuser is provided with multiple openings therein to atomize the liquid for enhanced contact, the holes being arranged in a plurality of horizontal rows. It would have been obvious for an artisan at the time of the invention, to modify the water diffuser of Evert to include a large number of water atomization holes therein, the holes being arranged in plural horizontal rows, in view of any one of the alternative secondary references, since such would provide for high efficiency contact between the phases and a structure that would be easily machined using conventional fabrication tools.

9. Claims 14-28 and 49-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evert as applied to claims 1, 2, 4-8, 10-13, and 44-48 above, and further in view of either Fletcher or Gray.

Evert (Figs. 1-3; col. 1, line 65 through col. 2, line 4; col. 2, lines 15-40; col. 2, line 55 through col. 3, line 5; col. 3, lines 35-37) as has been applied above substantially discloses applicant's invention as recited by instant claims 14-28 and 49-53, except for the openings being

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arranged in a plurality of horizontal rows with openings in adjacent rows not being in vertical alignment.

Fletcher (The Figure; page 2, lines 22-37) and Gray (The Figure; page 1, lines 63-80) each alternatively disclose gas/liquid contact apparatus wherein a liquid inlet diffuser is provided with multiple openings therein to atomize the liquid for enhanced contact, the holes being arranged in a plurality of horizontal rows with openings in adjacent rows not being in vertical alignment. It would have been obvious for an artisan at the time of the invention, to modify the water diffuser of Evert to include a large number of water atomization holes therein, the holes being arranged in plural horizontal rows with openings in adjacent rows not being in vertical alignment, in view of either of the alternative secondary references, since such would provide for high efficiency contact between the phases and a structure that would be easily machined using conventional fabrication tools.

Applicant should also note that wherein the simple change in form or shape of a known element of the prior art, when such change is not shown to provide an unexpected result, has long been considered an obvious modification, it would have been obvious for an artisan at the time of the invention, to provide the water inlet spray openings, as taught by Evert, in any convenient shape, including slots or a combination of slots and holes. Note *In re Dailey et al*, 149 USPQ 47. Furthermore, it would have been obvious for an artisan at the time of the invention, to operate the reference apparatus at any convenient water inlet pressure, including that as recited by instant claim 16, since as stated by the Court, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. Note *In re Aller et al*, 105 USPQ 233. Lastly, wherein a

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change in size of a known element, such as the diameter of the openings, when such change is not shown to provide an unexpected result, has long been considered an obvious modification, it would have been obvious for an artisan at the time of the invention, to provide the water inlet spray openings, as taught by Evert, in any convenient size, including that as recited by instant claim 18, since as stated by the Court, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. Note *In re Aller et al*, 105 USPQ 233. Applicant should also note *In re Rose*, 105 USPQ 237 and *In re Reven*, 156 USPQ 679, with respect to the size of the openings.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Bushey whose telephone number is (703) 308-3581. The examiner can normally be reached on Monday-Thursday 6:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Simmons can be reached on (703) 308-1972. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


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Scott Bushey
Primary Examiner
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csb
June 11, 2003


6-11-03